Pre-purchase inspections

Presented by

David Murray

Adelaide Pre-purchase Inspections

A division of Nat Murray & Associates, CONSULTING ENGINEERS

www.appi.com.au

David is an experienced qualified engineer, Life Member and Fellow of the Association of Building Consultants. David has provided leadership in the building inspection space in South Australia in the role of President of the ABC for a total of 10 terms and has undertaken over 11,000 building inspections.

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Outline

- Can you get enough work?
- What expectations do customers have?
- Volume, quality, risk
- Price and income
- Business models
- What skill sets are needed for inspections?
- Standards
- Equipment
- Mindset when doing pre-purchase inspections
- Scope of inspections/Agreements/Exclusions
- Reporting tips
- Confidentiality

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Can you get enough work?

Factors affecting the amount of work you can get

The number of homes for sale *, which is influenced by

- Demography - population and population changes
- Finance and economic factors - lending criteria, interest rates, employment levels, confidence
- Changing housing needs associated with family formation and growth, lifestyle changes and ageing

The size of the PPI market * is a function of PPI uptake

The share of the PPI market * a function of the number of inspectors vying for business.

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SA property market: about 1800 sales/month

Metro Adelaide	Annual Sales	Q4 2017 Sales	Q1 2018 Sales	Q2 2018 Sales	Q3 2018 Sales
Houses	16,571	4,446	3,968	4,281	3,876
Home Units	4,995	1,375	1,250	1,319	1,051
Total	21,566	5,821	5,218	5,600	4,927

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What is the PPI uptake?

Auction: Not uncommon to have ***multiple*** inspections on the one home
Older homes: Estimate 70% have inspections done
Female dominated purchase decision: Highly likely to have PPI
Upper market segment: Highly likely to have PPI
Homes with obvious defects: Highly likely to have PPI
Lower market segment: probably only 30 to 40%
Pushy agent, purchaser uncomfortable: Highly likely to have PPI

Overall estimate: 0.7 x the number of sales, uptake growing with scope to go higher.

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What is an average work volume?

Say 1800 sales/month x 0.7 PPI uptake factor: = 15,120 PPI/year

If in SA, say 40 inspectors: 15,120/40 = 380 PPI/year/inspector

Say working 42 weeks: 380/42 = 9 PPI/week/inspector

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Getting your share of the pie
How do people find an inspector?

- Word of mouth
- “industry” referrals
- Internet searching and social media *
- From other marketing *

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Internet searching and social media

Internet

- Ranking and SEO
- Paid advertising
- Snagging a segment

Social media

- Facebook, Instagram, Linked-in

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Other marketing tools

- Business cards
- Vehicle signage *
- Shopfront, bill-boards
- Print and electronic media
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Information
www.appi.com.au
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Pre-purchase & Construction Inspections
Advice on Structural & Building Problems
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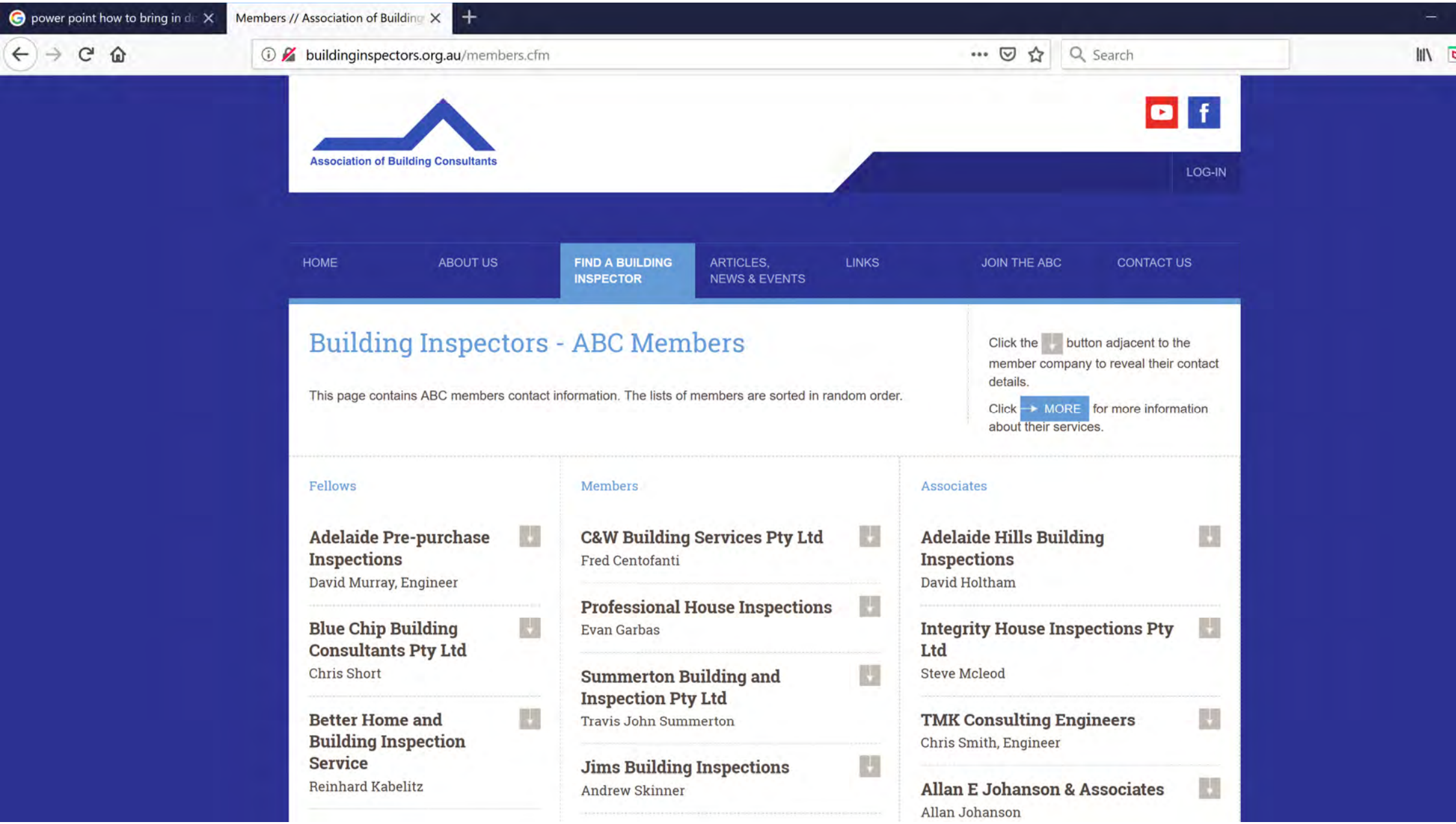
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Chris Smith, Engineer
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Allan Johanson

What expectations do customers have?

- To be aware of issues that may influence their purchase decision
- To clearly understand the overall condition of the home, relative to others of similar age and construction and be able to put issues into context
- Perhaps to get advice on specific concerns they may have
- To avoid pitfalls they may have experienced with previous purchases
- To get “peace of mind” or confidence with their purchase decision
- Sometimes, to satisfy another party
- To be able to bargain the price down or get the vendor to fix issues identified

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Volume, quality, risk

As volume increases, a point will be reached where thoroughness decreases and customer satisfaction is impacted.

Increasing volume beyond your quality threshold means:

- Increased risk of missing something or not reporting well; with associated negative come-back
- Sloppy inspection gives you a bad image; and word gets around
- Not meeting customer expectations results in lost opportunity for repeat business and referrals.

Overall risk increases disproportionately if thoroughness is compromised.

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Price

- Many people shop around, get quoted on completely different services in terms of scope, inspector qualifications and experience, thoroughness and quality of reporting.
- A sustainable inspection service gets business on the basis of the service they consistently provide, not from low pricing.
- The customer who shops on price has the same expectation on quality as those who shop for a premium service.
- Your customers will want you to provide the same service as the best in the business, no matter how much you charge.

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My humble opinion:

- In the PPI business, chasing work with low pricing is fraught with ***serious*** consequences.
- Rushing a job is bad for you and even worse for the client.
- You and the customer are better off by pricing appropriately to cover as thorough an inspection and reporting service as you can provide.

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Gross PPI income, i = v x p

Let's assume an industry average volume of about 9 PPI/week

Say PPI target Gross income is $165k/year, can be achieved with:

5 PPI/week x 42 weeks x $800 per inspection or

9 PPI/week x 42 weeks x $440 per inspection or

12 PPI/week x 42 weeks x $330 per inspection

PPI's are generally part of the consulting work mix. Building consultants also do a range of other inspection and reporting work eg construction, structural, hazards, energy, dilapidation, problems & disputes. Some also design, build, develop etc

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Business models

- Sole trader or partnership, under a Company or a Business name umbrella
- Buying into an existing Franchise
- Buying or buying into an established business
- Sub-contracting

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What skill sets are needed for inspections?

1. Sound knowledge of building codes, standards and practices
2. Sound understanding of
    - the building process and things that can go wrong
    - ways that building elements perform and ways they can fail or deteriorate over time
3. Highly developed skills of observation and interpretation
4. Specialist knowledge and experience in areas relevant to the building inspection services offered
    eg structural, damp, plumbing, wiring, building services, pool safety compliance, energy, hazardous substances, termites and so on
5. A preparedness to
    - be thorough
    - to think through why as opposed to just describing what
    - to continually update skills
6. Physical dexterity, including being able to safely access parts of buildings
7. An “eye for detail”
8. An ability to record findings and explain issues to people who don’t have any understanding of building terms
9. Having the 3A’s

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Inspection standards

- AS 4349.0
- AS 4349.1
- AS 4349.3

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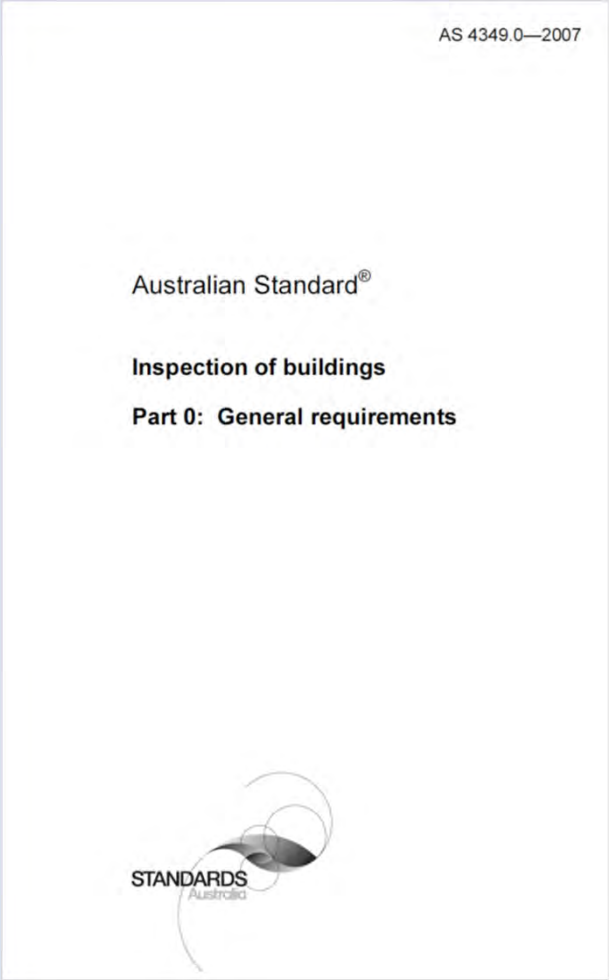
AS 4349 Part 0:
General requirements

Inspection & report to provide advice on

particular technical aspects of a property



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AS 4349 Part 1

Pre-purchase

Inspection & report on a residential property to provide advice to a prospective purchaser

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AS 4349 Part 3

Timber pest

Non invasive and limited invasive inspection and reports for the activity of timber pests

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AS 4349 series

- All persons undertaking pre-purchase inspections should be aware of each these standards.
- If you say in advertising or otherwise that you are undertaking the inspection in accordance with one or more of the standard(s), their minimum requirements must be complied with to fulfil your duty of care.
- Many professional indemnity insurance policies require pre-purchase inspections be undertaken in accordance with the relevant standard.

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AS 4349.1

My opinion: this Standard is written for the inspector and is not as helpful as it could have been in covering a service to assist prospective purchasers make their decision.

The very first 2 sentences of the FORWARD say

"The purchase of a residential property is an important decision and should be supported by knowledge of the physical state of the property. **Independent and objective advice is often required to enable informed decisions**."

But then it goes on to say the inspection process is a **subjective** appraisal.

The standard says it is not expected to be relevant where the inspection involves **objective** application of a "prescribed technique of appraisal".

The words "prescribed" and "technique" are not defined and appear nowhere else in the standard!

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AS 4349.1 broad requirements

- Visual assessment only
- Grounds, elevations, in and on the roof, under floors and internal rooms
- Report major defects, give an overall assessment on minor defects

  Major being “a defect of sufficient magnitude where rectification has to be carried out in order to avoid unsafe conditions, loss of utility or further deterioration of the property”.

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Equipment

- Required for AS 4349.1
- To provide a higher quality service

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Mindset when doing pre-purchase inspection work

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Adelaide soils

- Soil Association Map
- Soil properties - examples

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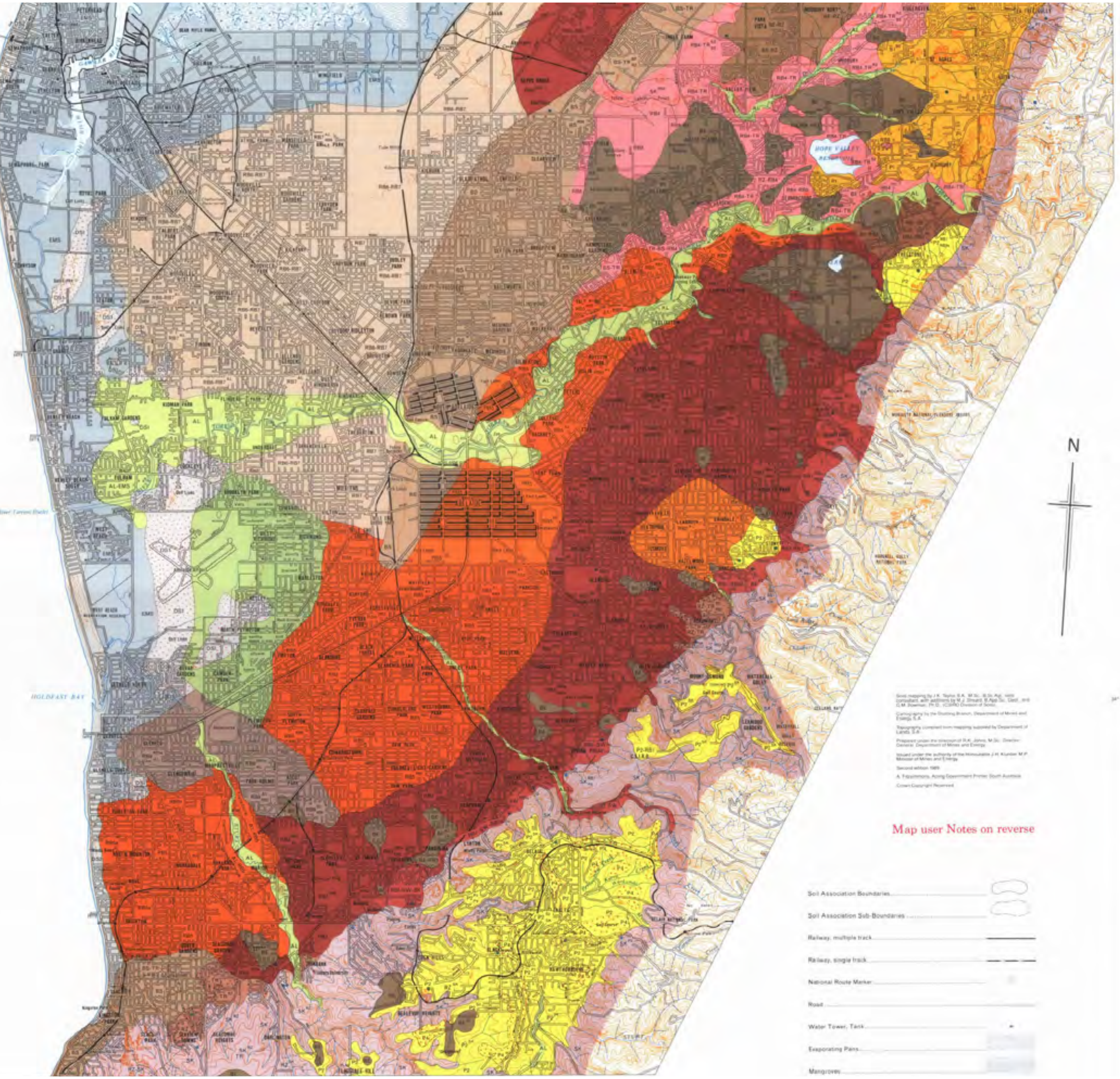


SOIL ASSOCIATION	DOMINANT SOIL TYPE	MINOR SOIL TYPE
I	AL	SW, RB3a, RB9, EMS
II	RB5	RBI, RB6, RB5a, AL
III	RB3	RBI, RB3a, RB3b, AL, BE intergrade soils
IV	BS, TR	RZ, SK
V	RB4, RB8, TR	RZ, BE, SK
VI	RZ, BE Intergrades	TR
VII	BE	RB3, intergrade soils
VIII	RBI, RB3, BE	P2, SK
IX	PI, SI	RB3
X	SK	Various residual soils
XI	RBI, RB3a, SW	SK, BE, RZ, TR, AL
XII	RB2	AL, RB3a, RB3b
XIII	P2, S2	PI, P4, SK
XIV	RZ, TR	RBI, RB3a
XV	P4	PI
XVI	RB9	RB3, RB5, RB5a, BE, AL
XVII	DS2	
XVIII	DSI	
XIX	EMS	DSI, RB3a, RB9, AL and intergrade soils
XX	RB6, RB7	AL, EMS
XXI	Poorly drained grey soils with AL, RB9, RB5 associates	

RED-BROWN EARTHS	RBI	Shallow stony red-brown clay soils overlying bedrock.
	RB2	Red-brown sandy clay soils with granular structure.
	RB3	Heavy red-brown clay soils with prismatic or blocky structure over clay with variable lime.
	RB4	Shallow red-brown clay soils with thin lime or calcrete layer on calcareous bedrock.
	RB5	Red-brown clay soils with granular structure over clay with variable lime.
	RB5a	Brown clay or sandy clay soils with granular structure over sandy clay with some lime.
	RB3a	As for RB3 but with stone fragments throughout the profile.
	RB3b	As for RB3 but with deep coarse-textured surface soil.
	RB6	Red-brown clay or sandy clay soils with blocky structure with low lime sand increasing with depth.
	RB7	Red-brown sandy clay soils with granular structure and with low lime overlying sand.
	RB8	Red-brown clay soils overlying calcareous clays on rock.
	RB9	Mottled silty clay over brown silty clay with granular structure, slight lime, becoming sandy with depth.
BLACK EARTH	BE	Black to dark grey clay soils with coarse blocky structure over brown or mottled clay, variable lime. Cracking soil.
TERRA ROSSA	TR	Shallow uniform red to brown soil with granular structure developed on highly calcareous parent material.
RENDZINA	RZ	Uniform dark brown to black soils with granular structure on highly calcareous parent material.
PODZOLIC SOILS	PI	Grey sand topsoils over mottled sandy clays with blocky structure on sandstone.
	P2	Grey sandy surface over yellow and mottled clay with blocky structure on slates, shales and quartzites.
	P3	Grey sandy surface over red clay with granular structure on slates and shales.
	P4	Grey sandy surface with much ironstone gravel over yellow and mottled clay with granular structure.
SOLODIC SOILS	SI	Grey and white sand over mottled clays with coarse blocky structure on sandstone bedrock, cracking type.
	S2	Grey and white sand over mottled clays with coarse blocky structure on shale and slate bedrock. Cracking type.
BROWN SOLONIZED SOIL	BS	Brown sandy to clayey soils with abundant earthy lime and calcrete in subsoil.
ALLUVIAL SOILS	AL	Layered stream alluvium—silts, sands and gravels.
ESTUARINE MUDS AND SANDS	EMS	Layered sediments of mixed marine and river origin—sands, silts, clays and organic deposits.
DUNE SAND	DSI	Layered old dune sands, generally compact and normally brown colours.
	DS2	Recent coastal dune sands, unconsolidated grey to white and yellow colours.
SLOPEWASH	SW	Mixed stony colluvial wash material usually brown and red-brown colours. No profile development.
SKELETAL SOILS	SK	Very thin soils on bedrock. Rock outcrops general.

Soils mapping by J.K. Taylor, B.A., M.Sc., B.Sc.Agr., soils consultant, with additions by M.J. Sheard, B.App.Sc., Geol., and G.M. Bowman, Ph.D., (CSIRO Division of Soils).

Cartography by the Drafting Branch, Department of Mines and Energy, S.A.

Topography compiled from mapping supplied by Department of Lands, S.A.

Prepared under the direction of R.K. Johns, M.Sc., Director-General, Department of Mines and Energy.

Issued under the authority of the Honourable J.H. Klunder M.P. Minister of Mines and Energy.

Second edition 1989

A. Fitzsimmons, Acting Government Printer South Australia

Map user Notes on reverse

Soil Association Boundaries

Soil Association Sub-Boundaries

Railway, multiple track

Railway, single track

National Route Marker

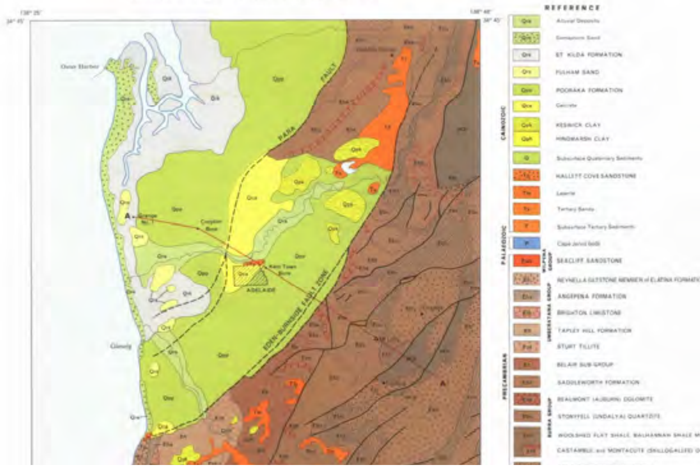
Road

Water Tower, Tank

Evaporating Pans

Mangroves

GEOLOGICAL MAP OF THE ADELAIDE REGION




AL
AL-RB5
RB5
PARADISE
BE-RB5
BS-RB4
RB5
BE
BE
P2
RB1
CAMPBELLTOWN
RB1
NEWTON
AL
RB1
BE
RB1
SW
RB1
BE
BE
BE
BE

Soil reactivity guide

(without tree effects Yt)

Dominant Soil	Movement Guide (Ys in mm)
BE	>70 and often over 100
RB3	40 to 70
RB5	20 to 40
RB2	20 to 40
RB6 & RB7	Generally up to 20
RB1 & RB8	20 to 70

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Site management

With Adelaide's reactive clay soils, be on the alert for site management issues.

The more reactive the soils, the more likely these factors can impact on structural performance.

- Roof water disposal, surface water disposal and seepage
- Drying effects of close trees, particularly large trees or a number of trees competing for moisture
- Compromised perimeter moisture consistency associated with lack of, or partial lack of effective paving
- Lack of consistent watering of grounds near the building
- Leakages

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Examples of other potential structural issues looked for

- Truss problems (overloading; modification, gang nail extraction)
- Poorly constructed and detailed conventionally framed roofing
- DIY wall removals affecting stability of abutting walling
- DIY wall removals without adequate roof support
- Compromised wall cavity ties, typically with mortar erosion
- Deterioration of building elements eg concrete lintels with concrete cancer, timber rot, steel corrosion
- Lack of adequate lintel support over openings
- Second story additions overloading wall framing below
- Inadequate balcony and balustrade construction
- Termite related structural damage

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“Joining the dots”

Job

- 12 YO T/F raft slab, artic, truss roof, no trees, RB3 soils, hot dry & windy
- Vacant ex-rental, “repainted”, ensuite retiled, new floating floors in passage

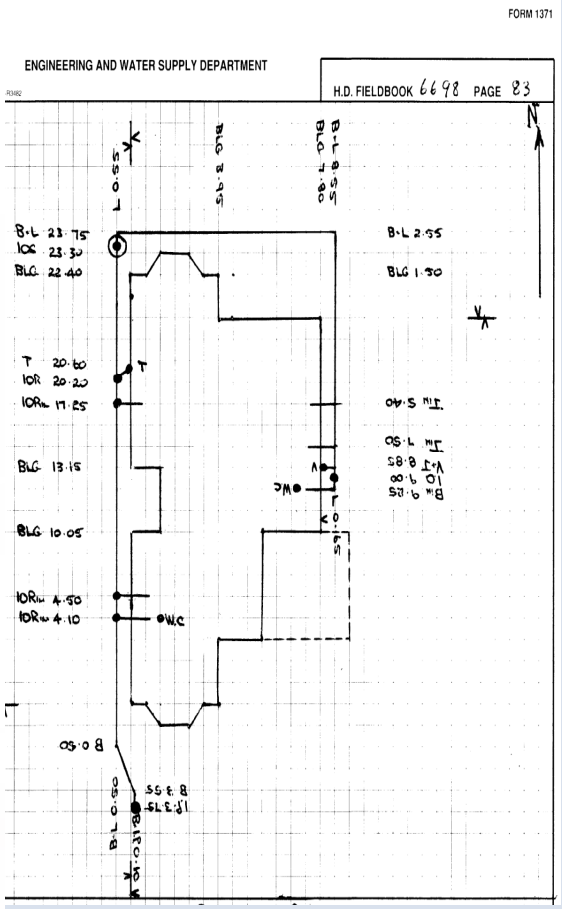
Observations

- Stain along side of gutter, at rear of B1 from holding water
- B1, Entry and Passage to Garage door edges showed no wear & tear
- High moisture readings in WIR floor but not in ensuite shower tiles
- 5mm gap at main WC floor to wall tile junction
- Possible efflorescence stain at ensuite footing edge

I suspect heave at front due to leakage somewhere near or under ensuite

Assessment process

- Took floor levels during inspection, confirmed relative heave at front
- Discussed concerns with purchaser on site. Downloaded sewer plan & confirmed location of run
- Recommend a plumber do a static pressure test on waste & sewer piping with follow up CCTV pipe inspection if leakage confirmed
- Leakage reported 6 to 7 litres/minute
- CCTV confirms 2 pipe fractures requiring digging up path & ensuite to repair



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More things looked for

Damp issues

- Slab edge dampness
- Rising damp – typically salt damp
- Leakages at breaching pieces in wet areas
- Shower and balcony leakages relating to waterproofing issues
- Roof leakages
- Leakages at doors and windows
- Condensation

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… and more

Plumbing issues

- Overflow relief gullies
- Puddle flanges
- Floor wastes & grades
- Venting
- Non-compliant fittings
- Roof drainage, flashings
- Box gutters
- Unsupported, unprotected and inappropriate use of plastic water piping
- Leakages under concrete raft slabs

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… and more

Electrical issues

- RCD’s failing, circuit breakers, surge, earthing
- Down light installation, clearances to halogens
- Damaged fittings
- Smoke detectors
- Old wiring
- DIY modifications
- Catenary
- PV systems not working
- Fittings and damaged fittings in areas exposed to moisture
- Active – Neutral – Earth wiring errors at power points
- Overloading of circuits

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… and more

Deterioration of building elements

- Weathering & rot to exposed framing and second fix timbers
- Corrosion to steel framing, roof sheeting, guttering & flashings
- Weathering of masonry surfaces and mortar
- Asbestos roof shingles and corrugated sheeting with surfaces breaking down, loose fibres, cracking and fretting
- Concrete cancer
- Roof tile under-side erosion

and more ….

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Slide show

“Days of our lives” doing inspections

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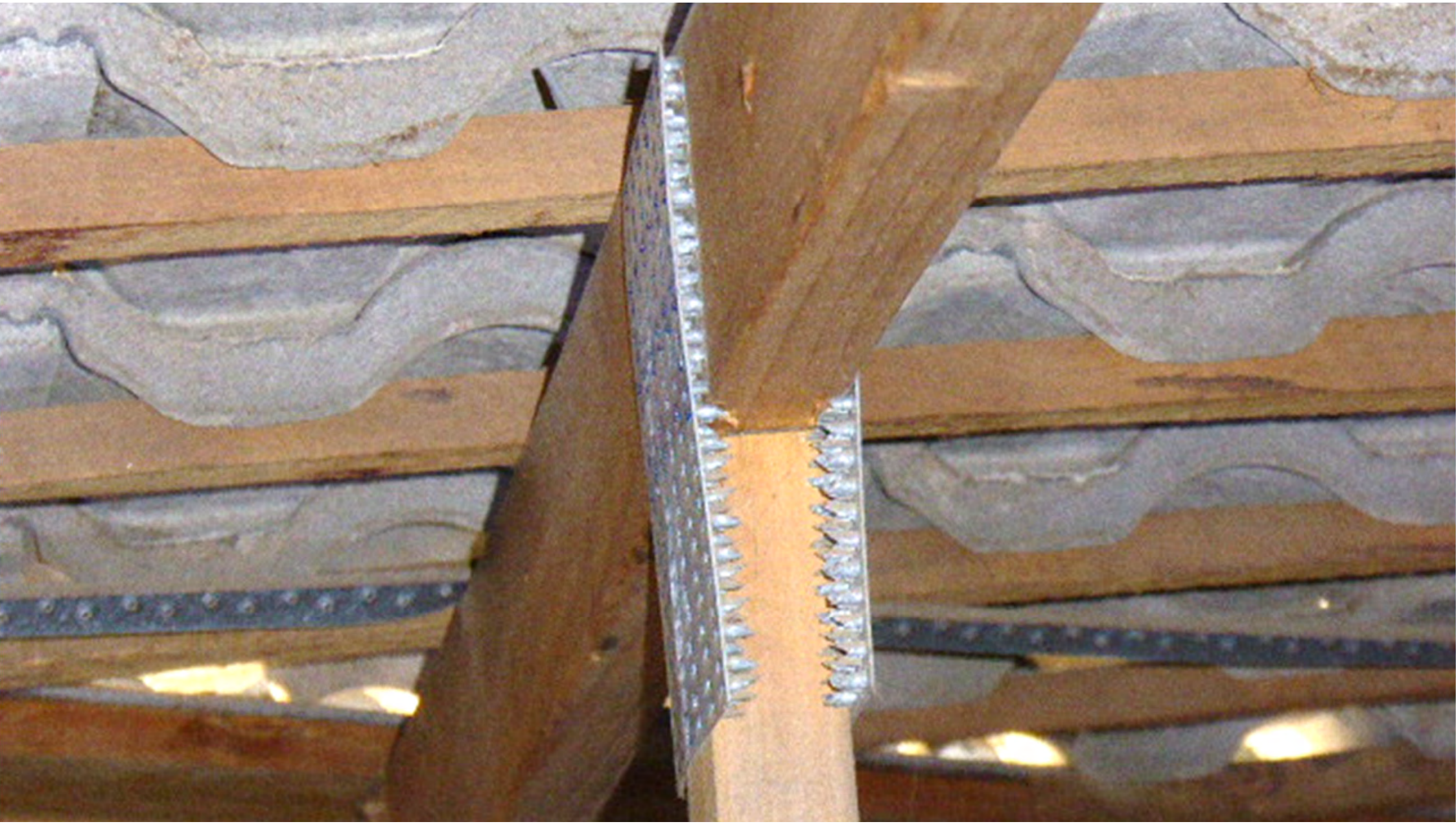

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A simple solution to deal with halogen downlight clearances is to change to LED's with an IC-4 Abutted & Covered rating

eg Clipsal TPDL1C1

See AS/NZS 60598.2.2 - 2016

What clearance from insulation and building material do you need for the TPDL1C1 LED downlights?

TPDL1C1 has an IC-4 Abutted & Covered rating.

Risk of Fire - Required clearance from structural members and building elements.

SCB = 0 mm, **HCB** = 0 mm

SCB – Side Clearance to Building element:
Minimum distance between the side of the recessed luminaire and any building element.

HCB – Height Clearance to Building element:
Minimum distance between the top of the recessed luminaire and any building element above it.

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issues with DIY work

- WC directly off from a food preparation area
- Habitable rooms with ceilings less than 2.4m
- Flammable foam ceiling tiles stuck under existing ceilings
- Subsided footing stumps packed up with sheets of scrap
- Internal use of rough texture paint over walls & ceilings to hide patching
- Leaving a gully sink in a habitable room, typically non-approved enclosing of a veranda
- Bedroom space created with no natural light or ventilation
- Trusses and rafters cut for HWS/AC installation
- Ceiling joists cut for installation of exhaust fans & down lights

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miscellaneous things that customers want to know about

- HWS not working or on last legs
- Unflued gas heaters and old type open gas heaters including no gas safety valve
- Air conditioning systems not working, ducting disconnection and deterioration
- Partial or lack of roof insulation
- Asbestos, particularly if unsafe eg fibrous asbestos water piping wrap falling apart in roofing
- Rodent infestation and associated mess in roofing
- Evidence of nefarious activities eg drug labs, cultivation

etc, etc, etc, etc, etc, etc, etc …

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Scope of inspections

- AS 4349.1 versus customer expectations and needs
- Competitive positioning
- Using limitations set out in the ABC model Agreement *

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Agreement/Exclusions

Important exclusions from the Report

1. If the Building is part of a multiple dwelling building, such as an apartment block, a strata titled unit, or a community titled dwelling, we will only report on that part of the Building and will not report on any common or community parts of the Building.
2. We will not report on maintenance issues or defects other than Major Defects.
3. We will not move any furniture, household items, floor coverings, plants or soil.
4. We will not cut access holes or remove access covers.
5. We will not cut, scrape, or destroy anything to inspect or test it.
6. We will not assess the Building for compliance with any Building Rules, past or present.
7. We will not make any enquiry of the local Council or any other authority.
8. We will not test any electrical equipment, appliances, smoke alarms, air conditioning, swimming pool plant, security systems or

9. We will not inspect, test or report on any of:

- Footings below ground.
- Concealed damp-proof course.
- Electrical installations, light switches and fittings, TV, sound and communications, intercom systems or security systems.
- Concealed plumbing.
- Adequacy of roof drainage.
- Gas fittings and fixtures.
- Airconditioning.
- Automatic garage door mechanisms.
- The operation of incinerators, fireplaces or heaters, including chimneys and flues.
- Floor coverings.
- Electrical appliances including hotplates, stoves, dishwashers, ovens, microwave ovens or ducted vacuum systems.
- Paint coatings, except external protective coatings.
- Health hazards (e.g., allergies, soil toxicity, lead content, radon, presence of asbestos or urea formaldehyde).
- Timber or metal framing sizes and adequacy.
- Concealed tie-downs or bracing.

- Timber pest activity.
- Mechanical or electrical equipment (such as gates).
- Soil conditions.
- Control joints.
- Sustainable development provisions.
- Concealed framing-timbers or any areas concealed by wall linings/sidings or cladding.
- Landscaping.
- Rubbish.
- Furniture or accessories.
- Stored items.
- Insulation.
- Environmental matters (e.g., BASIX, water tanks, BCA Environmental Provisions).
- Energy efficiency.
- Lighting efficiency.

Reporting tips

- Set up report templates
- Scope of inspection/inspection agreement
- Limitations/disclaimer
- Describe issues in lay terms with photos
- Don’t “pad-out” the report with general information, put it in attachments
- Interpretation, analysis, comparison
- Summarising
- Checking

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Confidentiality

- Ownership of the report
- Feedback to agents & vendors
- Other parties

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Questions